

WHAT IS CLAIMED IS:

1. An image pickup apparatus comprising:
an image pickup area including a plurality of
photoelectric conversion areas;
5 a plurality of converging lenses for converging
light on a plurality of photoelectric conversion areas;
and
a light shielding area having a plurality of
opening areas through which light is incident upon the
10 plurality of photoelectric conversion areas,
wherein positions of said converging lens and said
opening area are shifted inward than a corresponding
photoelectric conversion area.
- 15 2. An image pickup apparatus according to claim
1, wherein a shift amount between the opening area and
the photoelectric conversion area becomes larger at a
position nearer to a peripheral area of said image
pickup area.
- 20 3. An image pickup apparatus according to claim
1, wherein a center of said converging lens is
approximately coincident with a center of said opening
area.
- 25 4. An image pickup apparatus according to claim
1, wherein a position of said converging lens is

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shifted inward than a corresponding opening area.

5. An image pickup apparatus according to claim 1, further comprising:

5 an A/D converter for converting a signal from said image pickup area into a digital signal;

a signal processing unit for executing a color process for the digital signal supplied from said A/D converter; and

10 a memory unit for storing a signal from said signal processing unit.

6. An image pickup apparatus according to claim 1, wherein said image pickup area includes a plurality
15 of image pickup areas.

7. An image pickup apparatus according to claim 6, wherein a same color filter is disposed for each of the plurality of image pickup areas.

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8. An image pickup apparatus according to claim 7, further comprising:

a plurality of lenses for focussing an object image on each of the plurality of image pickup areas;

25 an A/D converter for converting a signal from each of the plurality of image pickup areas into a digital signal;

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a signal processing unit for executing a color process for the digital signal supplied from said A/D converter; and

5 a memory unit for storing a signal from said signal processing unit.

9. An image pickup apparatus comprising:

an image pickup area including a plurality of photoelectric conversion areas; and

10 a plurality of converging lenses for converging light on a plurality of photoelectric conversion areas, said converging lenses being formed on a layer evened by a CMP process;

15 wherein positions of said converging lens are shifted inward than a corresponding photoelectric conversion area.

10. An image pickup apparatus according to claim 9, further comprising:

20 an A/D converter for converting a signal from said image pickup area into a digital signal;

a signal processing unit for executing a color process for the digital signal supplied from said A/D converter; and

25 a memory unit for storing a signal from said signal processing unit.

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11. An image pickup apparatus comprising:

an image pickup area including a plurality of photoelectric conversion areas;

5 a plurality of converging lenses for converging light on a plurality of photoelectric conversion areas;

a first light shielding area having a plurality of opening areas through which light is incident upon the plurality of photoelectric conversion areas; and

10 a second light shielding area having a plurality of opening areas through which light is incident upon the plurality of photoelectric conversion areas, said second light shielding area being formed above said first light shielding area,

15 wherein in a peripheral area of said image pickup area, positions of said converging lens and the opening area of said second light shielding area are shifted inward than a corresponding photoelectric conversion area.

20 12. An image pickup apparatus according to claim 11, wherein a color filter is disposed between said first and second light shielding areas.

25 13. An image pickup apparatus according to claim 11, further comprising:

an A/D converter for converting a signal from said image pickup area into a digital signal;

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a signal processing unit for executing a color process for the digital signal supplied from said A/D converter; and

5 a memory unit for storing a signal from said signal processing unit.

14. An image pickup apparatus comprising:

an image pickup area including a plurality of photoelectric conversion areas; and

10 a plurality of converging lenses for converging light on a plurality of photoelectric conversion areas, wherein a position of said converging lens is shifted inward than a corresponding photoelectric conversion area, and the plurality of photoelectric
15 conversion areas in said image pickup area are disposed in a curved shape.

15. An image pickup apparatus according to claim 14, further comprising:

20 an A/D converter for converting a signal from said image pickup area into a digital signal;

a signal processing unit for executing a color process for the digital signal supplied from said A/D converter; and

25 a memory unit for storing a signal from said signal processing unit.

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16. An image pickup apparatus comprising:

an image pickup area including a plurality of photoelectric conversion areas; and

5 a plurality of converging lenses for converging light on a plurality of photoelectric conversion areas;

wherein in a peripheral area of said image pickup area, a position of said converging lens is shifted inward than a corresponding photoelectric conversion area, and a pitch between a plurality of converging
10 lenses in a first area is different from a pitch between a plurality of converging lenses in a second area.

17. An image pickup apparatus according to claim
15 16, further comprising:

an A/D converter for converting a signal from said image pickup area into a digital signal;

a signal processing unit for executing a color process for the digital signal supplied from said A/D
20 converter; and

a memory unit for storing a signal from said signal processing unit.

18. An image pickup apparatus comprising:

25 a plurality of image pickup areas each including a plurality of photoelectric conversion areas; and

a plurality of converging lenses for converging

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light on a plurality of photoelectric conversion areas;

wherein in a peripheral area of said image pickup area, a position of said converging lens is shifted inward than a corresponding photoelectric conversion

5 area, and in at least two image pickup areas, shift amounts between said converging lens and the photoelectric conversion area are different.

10 19. An image pickup apparatus according to claim 18, further comprising:

an A/D converter for converting a signal from each image pickup area into a digital signal;

15 a signal processing unit for executing a color process for the digital signal supplied from said A/D converter; and

a memory unit for storing a signal from said signal processing unit.

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